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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/057,901 | 01/29/2002 | Minoru Teshigawara | 01272.020501 | 3698 |

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

NGUYEN, LAMSON D

ART UNIT PAPER NUMBER

2861

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

10/057,901

Applicant(s)

TESHIGAWARA ET AL.

Examiner

Lamson D Nguyen

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment dated 04 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

* In claims 3 and 11, it is not clear what an "intermediate value of an expressible density range" is.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 2, 4-7, 9-10, 12-13 are rejected under 35 U.S.C. 102(a) as being anticipated by Matsubara et al. (6,540,326).

Matsubara et al. teach an ink jet printing apparatus, printing method, and a program comprising:

- data producing means for producing printing data corresponding to each of a plurality of printing elements, under a predetermined condition, the

printing elements differing in the sizes of dots to be formed (figure 14;
figure 22a teaches nozzles of different size)

- conversion means for converting the printing data produced by said data producing means into dot data for distributing a dot to a pixel, said conversion means executing the converting independently for and correspondingly to each of the different sizes of dots (column 13, lines 5-10 teach "the data latch 141 latches recording data read out from the RAM 13 in units of 8 bits; lines 19-20 teach "the recording signal is converted into recording data..")
- the predetermined condition is a condition that a change in density of an image, which is printed with dots formed based on the printing data corresponding to each of the printing elements different in the sizes of dots formed, is linear (figure 7)
- the printing elements include ejection openings for ejecting ink (figures 7-8 teach nozzles 12 and 14 for ejecting ink out)
- the ejecting openings ejecting ink of a same color and different amount are arranged in parallel and in a scanning direction of the printhead (figure 7 teaches nozzles ejecting same-color-different-amount ink disposed parallel and in a scanning direction)
- the ejecting openings ejecting ink of a same color and different amount are arranged alternately in a direction perpendicular to a scanning direction (figure 8 teaches large nozzles 14 and small nozzles 12 of a

same color ink are disposed in a staggered manner in a sub-scanning direction)

- a group of the ejection openings of a plurality of ink colors and other group of the ejection opening group of the plurality of ink colors are arranged symmetrically with an axis perpendicular to the scanning direction (figures 7-8 teach the nozzle arrays of 10Y, 10M, 10C, and 10K are arranged symmetrically and parallel in the sub-scanning direction)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsubara in view of Takahashi et al. (6,390,586).

Matsubara teaches all claimed features of the instant invention with the exception:

- a plurality of print buffers corresponding to respective inks


It is well-known in the art of printers to have a plurality of print buffers corresponding to a plurality of inks, as taught by Takahashi et al. (figure 17, print buffers 309 Y, M, C, and K).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Fukuhata to incorporate the teaching of a plurality of print buffers taught by Takahashi et al. for the purpose of storing different color print data.

Response to Arguments

4. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

5. Any questions regarding this communication may be addressed to Mr. Lamson D. Nguyen whose telephone number is 703-306-4547.


LAMSON NGUYEN
PRIMARY EXAMINER
08/21/23